

# The Impact of the 1969-70 Monetary Stringency on Business Investment

This article presents the findings of a special survey conducted by OBE jointly with the Securities and Exchange Commission. The survey, which covered most companies cooperating in the regular OBE-SEC plant and equipment expenditure surveys, focused primarily on the nature, timing, and magnitude of the impact on business investment of the severe monetary restraint in 1969-70. The survey also collected qualitative information on the major factors causing appreciable differences between actual plant and equipment expenditures in 1970 and the levels expected early that year. Comparisons of the survey's findings with those of a similar survey conducted in 1967 are also presented.

**DURING** the past 5 years the American economy experienced two periods of extremely stringent credit conditions, first in 1966 and again in 1969-70, as monetary policy was called on as a major anti-inflationary tool. In the spring of 1967, the Office of Business Economics jointly with the Securities and Exchange Commission conducted a survey on the impact of the 1966 monetary stringency on business investment in both 1966 and 1967. The results of that survey were published in the August 1967 SURVEY OF CURRENT BUSINESS.<sup>1</sup>

Because of the widespread interest in and diversity of opinion over the influence of financial conditions on business investment, OBE and SEC conducted another survey during April 1971. This article presents the results of the 1971 survey, with a comparison of the results with those of the survey taken in 1967.

The findings of the latest survey generally confirmed the findings of the 1967 survey—that the direct impact of monetary policy on business investment was relatively light and that it lagged in time. The overall reduction of business investment outlays in 1970 and of investment programs for 1971 stemming directly from 1969-70 financial market conditions was estimated at the following amounts:

(Billions of dollars)	
<b>Reduction of 1970 expenditures for new plant and equipment:</b>	
Actual reduction (based on survey questions 5a and 7).....	1.0
Hypothetical reduction relative to significantly easier monetary conditions (based on survey questions 10a and 11).....	1.4
<b>Reduction of 1971 expenditure programs for new plant and equipment:</b>	
Based on survey questions 10a and 11.....	1.4
<b>Reduction of 1970 inventory expenditures:</b>	
Actual reduction (based on survey questions 5b and 8).....	.8
Hypothetical reduction relative to significantly easier monetary conditions (based on survey questions 10b and 12).....	.8

Although financial market conditions in 1969-70 were among the most stringent on record, according to the survey, they directly resulted in an estimated overall reduction of only about \$1 billion, or about 1 percent, in total 1970 nonfarm nonresidential fixed investment. A reduction of about \$800 million in 1970 nonfarm inventory expenditures was also directly attributable to 1969-70 financial developments; to put this in perspective, it should be noted that the actual addition to inventory in 1970 was \$2.5

billion and the yearend book value was \$196.1 billion.

The estimated impact of 1969-70 monetary developments on 1971 business investment plans was greater than that indicated for 1970, reflecting the lagged effect of monetary stringency on business investment. Businessmen indicated that their 1971 plant and equipment spending plans were reduced by \$1.4 billion, or about 1.4 percent, because of the direct impact of 1969-70 financial developments.

These estimated percentage reductions in nonfarm nonresidential fixed investment outlays, 1 percent for 1970 and 1.4 percent for 1971, were only moderately greater than those calculated from the 1967 survey. The results of that survey indicated nonresidential fixed investment cutbacks approximating two-thirds of 1 percent for 1966 and about 1½ percent for 1967 as a consequence of the 1966 credit squeeze.

An alternative quantitative measure of the impact of monetary stringency on business investment is that provided by the responses to questions 10, 11, and 12 of the questionnaire. On the basis of these replies, it is estimated that business spending for new plant and equipment in 1970 would have been greater by about \$1.4 billion and inventory outlays greater by some \$800 million had significantly easier credit conditions (specifically, the average conditions during the 1961-65 period) prevailed during 1969 and 1970. Although posing a purely hypothetical case, this series of questions was addressed directly to the impact of monetary stringency on business investment. Considering the extreme disparity between monetary conditions in 1969-70 and those in 1961-65, the \$2.2 billion

1. Jean Crockett, Irwin Friend, and Henry Shavell, "The Impact of Monetary Stringency on Business Investment," SURVEY OF CURRENT BUSINESS, August 1967, pp. 16-27.

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overall impact of monetary tightness in terms of potential 1970 outlays for capital equipment and for inventories, as estimated from this series of questions, appears remarkably low, and tends to corroborate the findings resulting from the earlier series of questions.

The inquiry into factors affecting the realization of 1970 investment plans found that departures from expectations with respect to financial market conditions were less important in reducing investment than were disappointments in sales or net earnings and unexpected delays in construction and equipment deliveries. In decreasing order of frequency, the principal factors cited as tending to reduce spending for new plant

and equipment in 1970 relative to plans made earlier that year were: Lower-than-expected sales; lower-than-expected net earnings; unexpected delays in equipment deliveries and/or construction progress; higher-than-expected working capital requirements; and tighter-than-expected financial market conditions.

The most frequently cited factors tending to raise 1970 outlays for new plant and equipment above expectations were, in decreasing order of frequency: Higher-than-expected sales; earlier-than-expected equipment deliveries and/or construction progress; higher-than-expected costs for plant and equipment; and unexpected outlays for pollution control.

### Financial conditions in 1969-70 and in 1966

The monetary authorities pursued a vigorous program of credit restraint throughout 1969, cautiously loosened restraint during the first half of 1970, and became more aggressive in carrying out a moderately expansionary policy in the second half of 1970. Following more than a year of intensifying credit shortages and steadily rising interest rates, pressures in the credit markets eased during the early months of 1970, particularly in the short-term money markets. This easing trend was interrupted in the spring, when financial market sentiment was adversely affected by concern over a possible liquidity crisis, but resumed again in

Table 1.—Factors Responsible for Deviations Between Expected and Actual Plant and Equipment Expenditures in 1970<sup>1</sup>

Line	Number of firms citing as a factor the difference between actual 1970 conditions and expectations with respect to—	Distribution of principal factors				Distribution of major factors			
		Increasing outlays <sup>2</sup>	Decreasing outlays <sup>2</sup>	Increasing outlays <sup>2</sup>	Decreasing outlays <sup>2</sup>	Increasing outlays <sup>2</sup>	Decreasing outlays <sup>2</sup>	Increasing outlays <sup>2</sup>	Decreasing outlays <sup>2</sup>
		Number <sup>3</sup>	Percent	Number <sup>3</sup>	Percent	Number <sup>3</sup>	Percent	Number <sup>3</sup>	Percent
1	Sales.....	80	114	15.3	25.4	61	281	13.7	19.3
	Firms with sales above expectations.....	41	1			46	0		
	Firms with sales below expectations.....	11	110			14	270		
	Firms not specifying direction.....	0	3			1	9		
2	Current expenses.....	20	6	0.1	1.3	45	161	10.8	11.3
3	Net earnings.....	9	85	2.8	31.2	40	326	5.0	23.5
	Firms with earnings above expectations.....	7	0			26	0		
	Firms with earnings below expectations.....	2	53			14	322		
	Firms not specifying direction.....	0	3			0	8		
4	Working capital requirements.....	6	43	1.5	9.6	28	336	6.3	16.5
	Cash balances.....	4	30			25	318		
	Other.....	1	4			3	24		
5	Timing of equipment deliveries and/or construction progress.....	35	86	10.7	39.2	50	80	11.3	5.6
6	Plant and equipment costs (vbl. prices paid).....	30	7	9.2	1.6	53	49	11.5	3.4
	Firms with costs above expectations.....	25	0			40	41		
	Firms with costs below expectations.....	3	0			3	5		
	Firms not specifying direction.....	0	1			0	3		
7	Financial market conditions <sup>4</sup> .....	10	23	3.1	7.4	23	163	6.0	11.6
	Firms mentioning availability and cost of debt financing.....	8	27			20	180		
	Firms mentioning availability and cost of equity financing.....	2	6			3	83		
8	Pollution control.....	26	2	8.0	.4	37	11	8.3	.9
9	Technological developments.....	23	1	7.0	.2	34	0	7.7	.6
10	Investment tax credit <sup>5</sup> .....	0	1	.0	.2	0	13	.0	.0
11	Mergers or acquisitions <sup>6</sup> .....	37	2	11.3	.4	59	0	4.3	.4
12	Routine underestimation or overestimation <sup>7</sup> .....	33	7	10.1	1.6	54	2	3.3	.1
13	Accidental damage <sup>8</sup> .....	0	0	2.8	.0	5	1	1.1	.1
14	Overall debt position <sup>9</sup> .....	0	6	.0	1.3	1	18	.2	1.3
15	All other factors.....	40	45	12.2	19.0	32	53	7.3	3.8
	Totals <sup>1</sup> .....	327	48	100.0	100.0	414	1,430	280.0	100.0

1. Based on factors cited by firms answering "yes" to "In aggregate dollar amount" and/or to "In composition or form" of question 1: "Were your actual 1970 expenditures for plant and equipment changed appreciably, either in terms of aggregate dollar amount or in composition or form, from those expected early that year?"

2. Increasing (decreasing) outlays refer to 1970 expenditures higher (lower) than expected by the firm early in 1970.

3. Not all firms specified the principal factor. Where only one major factor was indicated, this was taken to be the principal factor.

4. A number of firms specified several major factors.

5. The total may be smaller than the sum of the components since some firms mentioned both debt and equity financing.

6. Specified under "other factors" in the questionnaire.

7. Percentage components may not add to 100 percent because of rounding.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

the summer and gathered momentum in the fall.

The decline in short-term interest rates accelerated as the summer of 1970 wore on and in late September the prime rate, which had been cut from 8½ to 8 percent in March, was lowered to 7½ percent. In November, it was reduced in two steps to 7 percent, and in the latter part of December to 6½ percent. Long-term credit markets also eased materially in the second half of 1970, although the decline in long-term rates lagged that in short-term markets.

The rise of short-term and long-term interest rates to record levels and their decline during the 1969-70 period is shown below for selected rates and bond yields.

(Percent)					
	Jan. 1969	Jan. 1970	April 1970	June 1970	Dec. 1970
3-month Treasury bills.....	8.18	7.91	5.48	4.74	4.80
Prime commercial paper (4 to 6 months).....	4.53	3.78	3.06	3.31	5.73
Corporate bonds Aaa.....	6.50	7.91	7.33	3.48	7.04
U.S. Government long-term.....	6.74	6.90	5.53	4.09	5.97

Because comparisons are made between the latest survey and that conducted in 1967, a comment on financial developments during the year 1966 is appropriate.

Toward the end of 1965, the monetary authorities initiated a series of restrictive monetary measures to offset the inflationary effect of a surging demand for goods and services from virtually all sectors of the economy. While fiscal policy and "moral suasion" were also used to combat inflationary tendencies, there was an unusually heavy reliance on monetary measures. The latter were intensified from the spring of 1966 until the fall, when the authorities moderated their restrictive policy because of the

waning of inflationary pressures. Most market rates and yields peaked in the late summer, but some—such as those on commercial paper—did not ease until close to yearend.

### Scope of the survey

The latest survey questionnaire was addressed, as was the 1967 questionnaire, to the companies that cooperate in the OBE-SEC quarterly surveys of plant and equipment expenditures, except for certain transportation companies.<sup>2</sup> Eight thousand three hundred and thirty-seven questionnaires were mailed and 3,900 replies were received, a 47-percent response rate. The responding firms accounted for \$52.9 billion, or about two-thirds, of the \$79.7 billion of plant and equipment expenditures made by all U.S. firms in 1970 as estimated by the OBE-SEC survey. The responses of 3,790 firms are included in the tabulations given here. Returns received too late for inclusion in the tabulations, plus blank returns, account for the difference between the total number of responses (3,900) and the number analyzed in this article (3,790).<sup>3</sup>

The questionnaire focused primarily on the impact of 1969-70 financial market developments on business spending for new plant and equipment and for inventories in 1970 and in 1971. As in the 1967 survey, however, the first section of the questionnaire sought information on all factors—nonfinancial as well as financial—that exercised an appreciable influence in making actual capital spending in 1970 differ from expectations early that year. This part of the questionnaire was intended to provide some perspective on the relative importance of all factors influencing investment changes. The remainder of the questionnaire dealt exclusively with the influence of financial market conditions on business investment. The questionnaire is reproduced at the end of this article.

2. Railroads and trucking companies classified as Class I by the Interstate Commerce Commission were surveyed, as were airlines. Other transportation companies were not surveyed.

3. See later discussion concerning possible nonreporting blanks.

### Factors Affecting the Realization of 1970 Fixed Investment Programs

Section I of the questionnaire inquired into the causes of appreciable departures of 1970 plant and equipment expenditures from expectations. Of the 3,790 firms with usable returns, 1,047 indicated that their actual outlays for plant and equipment in 1970 deviated appreciably from the amounts expected early in that year. Such respondents were asked to identify the single most important ("principal") factor responsible for upward and/or downward deviations from expected spending, and also to indicate all other "major" factors causing deviations (question 2).

About three-fifths of the firms indicating appreciable deviations reported actual 1970 capital outlays below early-1970 expectations. This preponderance of reductions was true for all asset-size classes except the group under \$1 million, where upward revisions proved more common. It is relevant to note that every OBE-SEC capital spending survey in the postwar period has found a strong pattern of understatement in small firms' expectations.

Of the factors reported as tending to make actual 1970 spending exceed expectations, sales developments was the one most frequently cited, accounting for 15.3 percent of all "principal" factors cited and for 13.7 percent of all other "major" factors (table 1). The influence of sales developments was especially marked for the two smallest asset-size classes, where it accounted for 25 percent of all principal factors mentioned (table 2). Other factors cited prominently as tending to make spending exceed expectations included: Earlier-than-expected equipment deliveries and/or construction progress (10.7 percent of the principal factors cited and 11.3 percent of all other major factors); mergers and acquisitions (11.3 percent and 4.3 percent); higher-than-expected prices paid for plant and equipment (9.2 percent and 11.9 percent); unexpected outlays for pollution control (8.0 percent and 8.3 percent); increased current expenses (6.1 percent and 10.8 percent); and technological

(Percent)				
	Jan. 1966	Jan. 1968	Sept. 1968	Dec. 1968
3-month Treasury bills.....	3.83	4.80	6.35	5.01
Prime commercial paper (4 to 6 months).....	4.25	4.82	5.80	6.03
Corporate bonds Aaa.....	4.43	4.74	5.40	5.38
U.S. Government long-term.....	4.14	4.43	4.78	4.05

developments (7.0 percent and 7.7 percent).

Of the factors reported as tending to make 1970 spending *fall short* of expectations, the most common were lower-than-expected sales and net earnings. Together, these two factors constituted 46.6 percent of all principal factors cited and 43.4 percent of all other major factors (table 1). Unexpected delays in equipment deliveries and/or construction progress were next in importance, making up 19.2 percent of all principal factors and 5.6 percent of all other major factors. Higher-than-expected working capital requirements, chiefly with respect to cash balances, constituted 9.6 percent of the principal and 16.5 percent of the other factors cited (possibly reflecting outlay curtailments in order to conserve cash

balances). Unexpected financial market developments constituted 7.4 percent of the principal factors and 11.6 percent of all other major factors. Affected firms cited changes in the availability and cost of debt financing much more frequently than equity market difficulties.

#### Comparison with 1967 survey

The close similarity between section I of the 1967 questionnaire and section I of the 1971 questionnaire makes possible a direct comparison of the results of the two surveys.<sup>4</sup> Chart 10 shows the relative importance of the various

4. Section I of both questionnaires dealt with the factors responsible for appreciable differences between actual and expected capital outlays in the preceding year. The two questionnaires had virtually identical formats for section I, except that the 1971 questionnaire (1) added "pollution control" as an explicit factor and (2) separated "working capital requirements" into "cash balances" and "other."

principal factors tending to increase and to decrease capital outlays in 1966 and in 1970. In interpreting differences between the 2 years, it should be noted that 1970 was characterized by relatively slack rates of economic activity and capacity utilization, an easy capital goods supply situation, and disappointing sales and profits; in contrast, generally strong business conditions prevailed during 1966, with a much tighter supply situation. Upward revisions in capital outlays were more frequent than downward revisions in 1966, while the reverse was true in 1970.

Given the dissimilar economic conditions, it is not surprising that the most striking difference between 1966 and 1970 was in the influence of unexpected developments in sales and net

Table 2.—Principal Factors Responsible for Deviations Between Expected and

Line	Number of firms citing as principal factor the difference between actual 1970 conditions and expectations with respect to	Nonfinancial firms only							
		Under \$1,000,000 assets				\$1,000,000 to \$9,999,999 assets			
		Increasing outlays <sup>1</sup>	Decreasing outlays <sup>2</sup>	Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>	Increasing outlays <sup>1</sup>	Decreasing outlays <sup>2</sup>	Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>
		Number <sup>1</sup>	Percent	Number <sup>1</sup>	Percent	Number <sup>1</sup>	Percent	Number <sup>1</sup>	Percent
1 Sales	8	5	30.0	31.2	21	30	25.5	39.9	
Firms with sales above expectations	6	5			18	1			
Firms with sales below expectations	2	0			3	28			
Firms not specifying direction	0	1			0	0			
2 Current expenses	2	0	6.2	.0	16	3	10.4	3.1	
3 Net earnings	1	4	5.1	28.0	3	17	1.3	17.3	
Firms with earnings above expectations	1	0			3	0			
Firms with earnings below expectations	0	4			0	17			
Firms not specifying direction	0	0			0	0			
4 Working capital requirements	1	1	3.1	6.3	2	13	2.1	12.2	
Cash balances	0	1			2	12			
Other	1	0			0	0			
5 Timing of equipment deliveries and/or construction program	2	2	6.2	12.5	4	9	4.3	9.2	
6 Plant and equipment costs (viz. prices paid)	2	1	6.2	6.2	10	2	10.4	2.0	
Firms with costs above expectations	1	1			5	1			
Firms with costs below expectations	0	0			1	0			
Firms not specifying direction	1	0			1	1			
7 Financial market conditions	0	2	.0	12.5	2	0	2.1	5.1	
Firms mentioning availability and cost of debt financing	0	1			1	3			
Firms mentioning availability and cost of equity financing	0	1			1	2			
8 Pollution control	1	0	3.1	.0	5	0	5.3	.0	
9 Technological developments	3	0	9.4	.0	5	0	5.3	.0	
10 Investment tax credit <sup>1</sup>	0	0	.0	.0	0	1	.0	1.0	
11 Mergers or acquisitions <sup>1</sup>	0	0	15.6	.0	0	0	9.6	.0	
12 Routine underestimation or overestimation <sup>1</sup>	3	0	9.4	.0	3	2	8.5	2.0	
13 Accidental damage <sup>1</sup>	2	0	6.2	.0	5	0	5.3	.0	
14 Overall debt position <sup>1</sup>	0	0	.0	.0	0	0	.0	.0	
15 All other factors	2	1	6.2	6.2	3	7	1.4	7.1	
Totals <sup>1</sup>	32	16	100.0	100.0	54	58	100.0	100.0	

1. Based on "principal" factors cited by firms answering "yes" to question 1: "Were your actual 1970 expenditures for plant and equipment changed appreciably, either in terms of aggregate dollar amount or in composition or form, from those expected early that year?"

2. In addition to the firms shown by asset size, includes financial institutions as well as a small number of nonfinancial firms for which asset-size information was not available.

3. Increasing (decreasing) outlays refer to 1970 expenditures higher (lower) than those expected by the firm in early 1970.

earnings. These two factors combined constituted 46.6 percent of all principal factors cited as tending to depress expenditures in 1970, up from 12.1 percent for the comparable two factors in 1966. With respect to upward revision of spending, the two factors constituted 18.1 percent of the principal factors cited for 1970, down from 30.8 percent in 1966.

The marked difference between 1966 and 1970 in the influence of surprises in sales and net earnings was evident for all asset-size groups (table 2). Among the larger firms, for example, the two factors together constituted 44.2 percent of the principal factors cited as tending to reduce spending in 1970, as against only 5.6 percent in 1966; with respect to upward revisions, the two factors accounted for only 4.2

percent of the principal factors cited for 1970, as against 29.2 percent in 1966.

Another marked shift between 1966 and 1970 in the relative importance of the principal factors was in the timing of equipment deliveries and/or of construction progress. Unexpected delay in equipment deliveries and/or in construction progress was by far the most important principal factor depressing capital outlays in 1966, accounting for 47.8 percent of all such factors cited. Reflecting easier supply conditions, this factor was much less influential in 1970, when it accounted for 19.2 percent of the principal factors operating to reduce spending.

In 1970, as in 1966, unexpected financial market developments were important factors causing deviations from expected investment programs.

Differences between actual and expected financial market conditions accounted for 7.4 percent of the principal factors cited as tending to reduce spending in 1970, as against 10.9 percent in 1966. With respect to upward revisions of spending, unanticipated financial market developments constituted 3.1 percent of the principal factors cited in 1970, as against 0.9 percent in 1966.

#### Direct and indirect effects

Respondents to the latest survey were explicitly instructed that all questions bearing upon the impact of financial market conditions were to be answered with respect only to the *direct impact* of such conditions on their firms' investments, and that any indirect impact of such conditions

Actual Plant and Equipment Expenditures in 1970<sup>1</sup> by Asset Size of Firm

Nonfinancial firms only (Continued)								All firms <sup>2</sup>			
\$10,000,000 to \$10,000,000 assets				\$10,000,000 assets and over				Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>	Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>
Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>	Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>	Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>	Increasing outlays <sup>3</sup>	Decreasing outlays <sup>3</sup>				
Number <sup>4</sup>	Percent	Number <sup>4</sup>	Percent	Number <sup>4</sup>	Percent	Number <sup>4</sup>	Percent	Number <sup>4</sup>	Percent	Number <sup>4</sup>	Percent
10	36	14.1	30.0	3	30	4.2	86.6	30	114	16.1	25.4
9	0			3	0			41	1		
2	34			0	30			0	118		
0	3			0	0			0	3		
4	2	5.6	1.7	2	1	2.8	.6	20	6	6.1	1.3
3	24	4.2	20.0	0	49	.0	27.4	9	36	2.8	31.2
1	0			0	0			7	0		
2	23			0	48			2	03		
0	1			0	1			0	2		
0	14	.9	11.7	0	16	.9	8.9	5	43	2.5	9.6
0	14			0	12			4	30		
0	0			0	4			1	4		
6	26	8.5	16.7	11	39	16.8	21.8	35	86	10.7	18.2
9	2	19.7	1.7	5	2	7.0	1.1	38	7	9.2	1.0
8	3			0	2			25	6		
1	0			0	0			2	0		
0	0			0	0			1	1		
5	10	7.0	8.3	3	13	4.2	7.3	10	33	3.1	7.4
4	10			3	11			3	27		
1	0			0	2			2	0		
6	1	8.6	.8	14	1	19.7	.6	26	1	8.0	.4
6	0	8.6	.6	6	1	8.5	.6	23	1	7.6	.3
0	0	.0	.0	0	0	.0	.0	0	1	.3	.2
7	1	9.9	.8	11	0	28.5	.0	37	2	11.3	.4
4	0	5.6	.0	5	3	7.8	1.7	33	7	10.1	1.6
1	0	1.4	.0	1	0	1.4	.0	0	0	2.8	.0
8	1	.9	.3	0	4	.0	3.2	0	6	.0	1.1
10	9	14.1	7.5	10	20	14.1	11.2	40	48	12.2	10.0
71	126	100.0	100.0	73	179	100.0	100.0	327	432	100.0	100.0

4. Not all firms specified the principal factor. Where only one major factor was indicated, this was taken to be the principal one.

5. Specified under "other factors" in the questionnaire.

6. Percentage components may not add to 100 percent because of rounding.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

operative through purchases by their customers were to be ignored. In the 1967 survey, this instruction was not given for section I of the questionnaire, but it is not believed that this has led to any important incomparability between the 1967 and 1971 survey findings. The purpose of this instruction was to eliminate such indirect effects as that which occurs when a firm's sales, and therefore its capital requirements, are reduced because of the adverse impact of financial conditions on its customers, and that which occurs when a firm reduces its investment in anticipation of such a reduction in its sales.

Notwithstanding explicit instructions in the 1971 survey to limit responses to the direct impact of monetary factors, it is possible that some replies to

questions 7 and 8 (discussed below) include the effects of nonfinancial factors as well. Those two questions asked for quantification of the reductions in 1970 investment outlays that were directly attributable to financial factors alone, and some respondents may have found it too difficult to isolate the direct impact of such factors alone. To the extent that this occurred, the reductions reported in the replies to questions 7 and 8 overstate the direct effects of monetary conditions.

### Impact of Financial Market Factors on 1970 and 1971 Plant and Equipment Expenditures

The survey data show that 1969-70 developments in the money and capital

markets had an impact on 1970-71 plant and equipment spending somewhat greater than that which resulted in 1966-67 from the restrictive monetary conditions in 1966.<sup>5</sup> The results of the latest survey show many of the same patterns revealed in the earlier survey, such as the sharper downward revisions reported by small firms; the tendency of large firms to react more slowly than small firms to financial market developments; the greater influence of interest costs, relative to other effects of monetary restraint, as a cause of reductions in outlays; and the sizable proportion of affected firms that planned subsequently to carry out at least some of the investment eliminated in the period of great financial stringency.

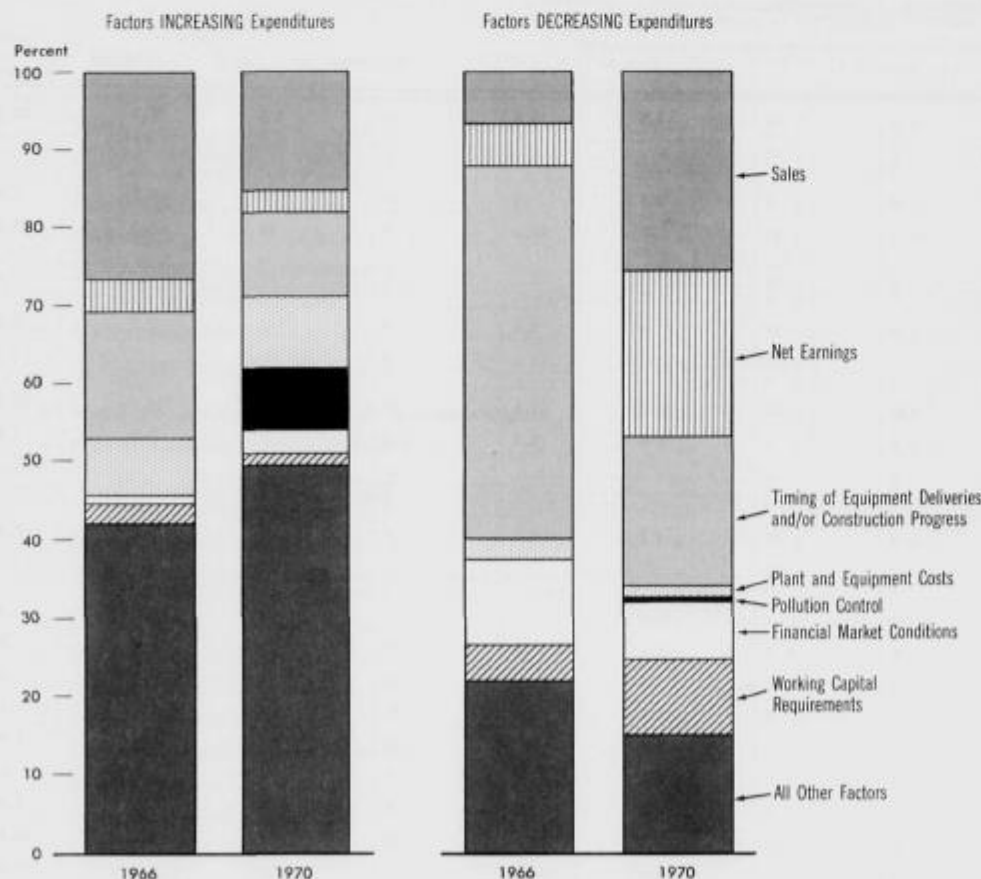
Tables 3 and 4 present the basic survey data relating to the impact of 1969-70 financial market developments on 1970 plant and equipment outlays. Table 3 organizes the data by industry and table 4 by asset size.

### Effects on 1970 plant and equipment spending

Of the responding firms, 9.2 percent (341 out of 3,709) indicated that 1969-70 financial market developments caused 1970 plant and equipment expenditures to be lower than they would otherwise have been (tables 3 and 4). This compares with the 5.3 percent that indicated in 1967 that 1966 outlays were lower than they would otherwise have been as a result of 1966 financial developments. In 1966, the proportion was relatively uniform among the various asset-size groups, but in 1970 the proportion increased with asset size, from 5.7 percent of firms with under \$1 million of assets to 12.7 percent of firms with assets of \$50 million or more (chart 11 and table 4, line 9).

Question 5 inquired into "any" reduction of outlays in 1970 resulting from restrictive monetary conditions, and differed in this respect from question 2g which inquired into "appreciable" reductions. As would be expected, more firms responded affirmatively to question 5 than checked 2g. Of the 341 firms that indicated reductions in 1970 capital outlays due to financial market

Percentage Distribution of Principal Factors Responsible for Deviations Between Expected and Actual Plant and Equipment Expenditures, All Industries, 1966 and 1970



NOTE.—1970 data are from table 2; 1966 data from table 2 of the article cited in footnote 1.

5. See earlier discussion on the differences between financial conditions in 1969-70 and in 1966.

conditions (question 5a), 164 also indicated "appreciable" reductions in their answers to question 2g. As in the 1967 survey, a higher proportion of the larger than of the smaller firms answered both of these questions affirmatively.

Respondents were also asked to indicate the quarters of 1970 which were affected significantly by reductions in outlays associated with financial market developments. The summary in table 4 shows that the number of firms affected was larger in the second half of the year than in the first, with the third quarter figure somewhat larger than that for the fourth. This pattern prevailed for all asset-size groups. In 1966, the number of affected firms rose throughout the year. The earlier peak in 1970 (third quarter) likely reflects the fact that in 1970 credit policy eased in February whereas in 1966 the easing did not occur until the fall.

Firms indicating in question 5a a reduction in 1970 plant and equipment expenditures because of 1969-70 financial developments were asked in question 9 to indicate the specific cause or causes of the reduction. About three-fourths of these firms (251 firms) cited higher interest costs (table 4). Unattractiveness of borrowing conditions other than interest rates was mentioned by one-third of the firms, and the unwillingness of financial institutions to supply funds was mentioned by one-fourth of the firms. The higher cost of equity financing resulting from the decline in the stock market was mentioned by one-sixth of the firms and the unattractiveness of underwriting terms by fewer than one-tenth. (Notwithstanding explicit instructions to reply only with respect to the direct impact of financial market conditions, 9 percent of the firms cited general

economic conditions as one of the reasons for cutbacks in investment.)

About 70 percent of the firms reducing 1970 outlays because of 1969-70 financial market developments indicated that they would carry out at least some of the eliminated investment in 1971 (table 4, line 8). The proportion was somewhat greater for the two larger asset-size groups than for the two smaller groups.

Table 3 presents the survey results by broad industry groupings. The proportion indicating some reduction of 1970 plant and equipment expenditures as a result of 1969-70 financial market developments was greater in manufacturing than in any other group; this is in contrast to the results for 1966, when the public utility group had the largest proportion of affected firms.

Firms were also asked the following question (number 10): "If the cost and

Table 3.—Reductions in 1970 Plant and Equipment Expenditures Resulting From 1969-70 Financial Market Developments: Number of Firms by Major Industry

Line		Manufacturing			Utilities <sup>1</sup>	Finance	Trade	All other <sup>2</sup>	All industries
		Durables	Non-durables	Total					
1	All firms answering question on 1970 impact of financial market developments (question 5a):	1,833	773	2,606	202	311	754	85	3,746
2	Number indicating no reductions (question 5a):	878	706	1,584	287	388	696	69	3,388
3	Number indicating reductions in plant and equipment expenditures because of financial market developments (question 5a):	133	87	202	15	3	23	6	341
4	Number indicating both reductions in plant and equipment expenditures (question 5a) and financial market conditions as a factor accounting for an appreciable decline from planned to actual expenditures (question 2g):	69	25	94	10	2	20	32	164
5	Number indicating significant reductions occurring in (question 5b):								
a.	First quarter:	31	18	49	3	1	15	10	83
b.	Second quarter:	72	27	99	7	1	31	32	170
c.	Third quarter:	123	61	177	19	3	30	55	286
d.	Fourth quarter:	107	49	156	9	3	34	40	247
6	Number indicating reductions amounting to (question 5c):								
a.	Less than 5 percent of actual plant and equipment expenditures:	7	7	14	0	0	7	3	30
b.	5 percent to 9.9 percent:	27	13	40	0	1	7	7	61
c.	10 percent to 24.9 percent:	61	22	74	2	1	20	24	121
d.	25 percent to 49.9 percent:	30	12	42	1	1	0	0	52
e.	50 percent or more:	17	9	26	0	0	14	10	66
f.	Amount not specified:	3	3	6	0	0	1	4	11
7	Number mentioning no cause of reductions (question 9):								
a.	Rise in interest rate costs to your firm:	101	48	149	13	2	29	49	251
b.	Decline in the stock market because it affected your cost of equity financing:	26	13	39	4	0	8	7	67
c.	Unattractiveness of borrowing conditions other than interest rates:	43	26	69	7	0	22	23	121
d.	Unattractiveness of underwriting terms (other than affecting price or yield) in raising funds from the stock or bond market:	11	5	16	3	0	3	2	24
e.	Unwillingness of financial institutions to supply funds to your firm in desired amounts:	30	13	43	1	1	13	17	84
f.	Unwillingness of underwriters/brokers to handle your issues in desired amount in raising funds from the stock or bond market:	0	1	1	1	0	2	3	13
g.	Difficulties (other than interest cost) in issuing commercial paper:	7	6	12	1	1	0	1	16
h.	Other financial market conditions:	15	11	26	1	0	10	11	48
8	Number expecting to carry out in 1971 (question 10):								
a.	None of the eliminated 1970 plant and equipment expenditures:	40	12	52	4	1	10	17	99
b.	Some of the eliminated 1970 plant and equipment expenditures:	76	42	118	7	1	26	38	180
c.	Most of the eliminated 1970 plant and equipment expenditures:	11	10	21	3	0	7	13	44
d.	All of the eliminated 1970 plant and equipment expenditures:	2	2	4	1	1	4	2	12
e.	Not specified:	0	1	1	0	0	2	8	8

1. Includes communications.

2. Includes transportation, construction, mining, and services.

3. Question numbers refer to questionnaire.

4. Some firms indicated more than 1 quarter.

5. Firms replying "yes" to question 5a but not answering question 7.

6. Firms replying "yes" to question 5a but not answering question 13.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

availability of credit to your firm in 1969-70 had been about the same as in the 5-year period 1961-65, would your 1970 expenditures for new plant and equipment, and for inventories, have been greater than they actually were?" The questionnaire noted that this 5-year period was characterized by relatively easy credit conditions, with interest rates averaging 4.8 percent on short-term bank loans and 4.6 percent on domestic corporate bonds, as compared with 8.1 percent and 8.5 percent, respectively, in 1970. Of the firms answering this question, 430, or 12 percent, indicated that they would have spent more for plant and equipment under the specified conditions. (As shown in table 7, these 430 firms include

firms which responded "no" to question 5a regarding reductions in capital spending because of 1969-70 financial conditions.) The extent of the additional plant and equipment spending which would have occurred under the more favorable financial market conditions specified in question 10 is also shown in table 7.

#### *Effects on 1971 plant and equipment programs*

Table 5 presents data on the impact of 1969-70 financial developments on 1971 capital investment plans (question 14). Almost 88 percent of responding firms indicated no impact, 5 percent indicated that 1971 outlays would be larger than they otherwise would have been, while 8 percent said outlays would be smaller.

The pattern of the 1971 reductions by asset-size class was not appreciably different from the pattern of the 1970 reductions. As was the case for 1970 reductions, the proportion of firms expecting reductions in 1971 programs increased with asset size—from 5.9 percent for the smallest asset-size group to 10.0 percent for the largest (table 5, line 8, and chart 12).

Of the 268 firms that expected to reduce 1971 capital outlays as a result of 1969-70 financial market developments, roughly half were companies that had also indicated some reduction in 1970 expenditures for the same reason.

#### *Quantification of national impact*

Rough calculations can be made of the impact of 1969-70 financial market conditions on overall national outlays for plant and equipment. Estimates were derived for: (a) The reduction of 1970 spending for new plant and equipment; (b) the reduction of planned 1971 spending for new plant and equipment that would have occurred had the cost and availability of credit in 1969-70 been about the same as in the period 1961-65. (Estimates were also derived for the overall national impact on inventory investment. These are reviewed in a later section of this article.)

The general procedure for obtaining overall national impact estimates consisted of applying the sample ratios of reductions (or increases) in spending, by asset-size class, to universe estimates of spending by the respective size classes. For example, the national impact of 1969-70 financial market conditions on 1970 spending for new plant and equipment was derived in the following manner: (1) The frequency distributions of percentage reductions by non-financial firms in each of the four asset-size classes (table 4, line 6) were averaged on the basis of the arithmetic means of the percentage intervals<sup>6</sup> (table 4, line 10a) and of their medians (table 4, line 10b); (2) these mean and median percentages were applied, in each asset-size class, to the sum of the 1970 plant and equipment expenditures of the firms reporting reductions and the resulting dollar amounts were divided by the 1970 expenditures of all sample firms in the size class to yield aggregate percentage reductions for all sample firms in the size class (table 4, lines 11a and 11b); (3) these percentages were applied to universe estimates of 1970 capital outlays by nonfinancial business by asset-size class, as calculated by the regular OBE-SEC survey; (4) estimates for financial firms were derived by a similar procedure except that no asset-size distinction was made; and (5) the resulting estimate of reduction from the sum of steps (3) and (4) was raised to the more comprehensive universe of nonfarm nonresidential fixed investment appearing in the national income and product accounts.<sup>7</sup>

The nonfarm nonresidential fixed investment total of \$96.0 billion for the year 1970 comprises the \$79.7 billion of plant and equipment outlays covered by the OBE-SEC quarterly surveys

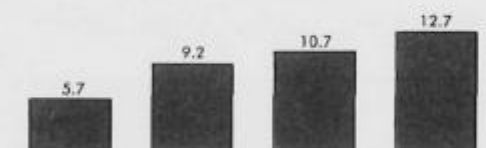
6. It was assumed that the mean for each percentage interval was at its midpoint. For the 50 percent or more class, the mean was assumed to be 75 percent.

7. This methodology is identical to that used in the 1967 survey. Another set of estimates was made from the new survey data, using for each asset-size class a weighting procedure: Step 1 above was carried out by applying the midpoint of each percentage interval to the capital outlays of the affected sample companies reporting reductions in that interval. The resulting dollar estimates of reduction were then expressed as a percent of total capital outlays by all sample firms, and the remainder of the methodology was the same as steps 2 through 5 above. The resulting estimates are close to those presented in this article and do not appreciably alter any of the findings.

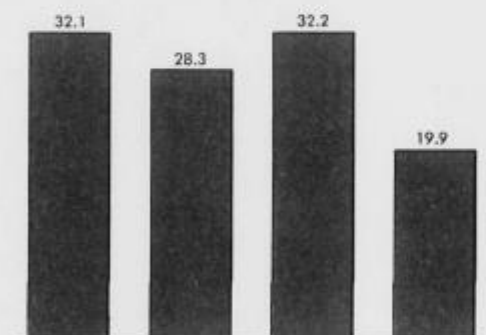
CHART 11

#### **Reductions in 1970 Plant and Equipment Expenditures Resulting From 1969-70 Financial Market Developments**

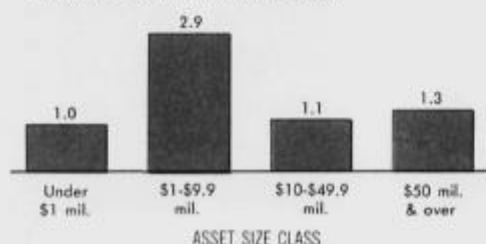
●Percent of firms reporting reduction



●Average percent reduction by affected firms



●Aggregate reduction as a percent of expenditures of all firms in size class



NOTE.—Data are from table 4.

plus outlays of nonprofit institutions, real estate companies, and firms providing professional services, capital outlays in oil and gas well drilling charged to current account, automobiles owned by salaried workers who are reimbursed by their employers for the business use

of their cars, and a number of other smaller reconciliation items.

Based on the \$96 billion national accounts total, the estimated reduction in 1970 fixed investment resulting from 1969-70 financial market conditions ranges from \$785 million if the sample

median percentage reductions are used to \$1,240 million if the sample arithmetic means are used. As the arithmetic mean calculation usually tends to overstate the true mean, while the median calculation tends to understate it, the average of the two results—\$1,010 mil-

Table 4.—Reductions in 1970 Plant and Equipment Expenditures Resulting From 1969-70 Financial Market Developments, by Asset Size

	Nonfinancial firms only					All firms <sup>1</sup>
	Under \$1,000,000	\$1,000,000 to \$9,999,999	\$10,000,000 to \$49,999,999	\$50,000,000 and over	All sizes	
	Number of firms					
1. All firms answering question on 1970 impact of financial market developments (question 5a) <sup>2</sup> .....	623	1,134	844	779	3,271	3,795
2. Number indicating no reductions (question 5a) <sup>2</sup> .....	493	1,030	754	672	2,949	3,388
3. Number indicating reductions in plant and equipment expenditures because of financial market developments (question 5a) <sup>2</sup> .....	130	104	90	107	322	341
4. Number indicating both reductions in plant and equipment expenditures (question 5a) and financial market conditions as a factor accounting for an appreciable decline from planned to actual expenditures (question 2g) <sup>2</sup> .....	8	31	59	53	151	164
5. Number indicating significant reductions occurring in (question 6) <sup>2,3</sup> :						
a. First quarter.....	10	24	30	25	78	83
b. Second quarter.....	14	34	45	50	103	120
c. Third quarter.....	22	30	77	82	211	235
d. Fourth quarter.....	20	79	70	94	263	247
6. Number indicating reductions amounting to (question 7) <sup>2</sup> :						
a. Less than 5 percent of actual plant and equipment expenditures.....	0	11	5	15	29	30
b. 5 percent to 9.9 percent.....	7	14	10	27	58	61
c. 10 percent to 24.9 percent.....	6	40	37	31	114	121
d. 25 percent to 49.9 percent.....	0	19	24	11	54	62
e. 50 percent or more.....	0	16	17	17	50	56
f. Amount not specified <sup>4</sup> .....	3	3	0	4	10	11
7. Number mentioning as cause of reductions (question 8) <sup>2</sup> :						
a. Rise in interest rate costs to your firm.....	10	72	66	83	230	251
b. Decline in the stock market because it affected your cost of equity financing.....	1	19	17	10	47	57
c. Unattractiveness of borrowing conditions other than interest rates.....	0	30	34	40	110	121
d. Unattractiveness of underwriting terms (other than offering price or yield) in raising funds from the stock or bond market.....	0	6	8	11	25	24
e. Unwillingness of financial institutions to supply funds to your firm in desired amounts.....	0	33	23	17	73	84
f. Unwillingness of underwriters/brokers to handle your issues in desired amount in raising funds from the stock or bond market.....	1	5	4	2	12	13
g. Difficulties (other than interest cost) in issuing commercial paper.....	1	3	1	7	12	18
h. Other financial market developments.....	5	10	15	7	46	48
8. Number expecting to carry out in 1971 (question 12) <sup>2</sup> :						
a. None of the eliminated 1970 plant and equipment expenditures.....	17	34	21	24	96	99
b. Some of the eliminated 1970 plant and equipment expenditures.....	10	51	53	38	152	180
c. Most of the eliminated 1970 plant and equipment expenditures.....	1	12	12	13	38	44
d. All of the eliminated 1970 plant and equipment expenditures.....	0	6	3	2	10	12
e. Not specified <sup>2</sup> .....	2	2	1	1	6	6
Percent						
9. Percentage of responding firms indicating reduction in outlays.....	4.7	9.2	10.7	12.7	9.8	9.2
10. Percentage reduction for affected firms calculated on the basis of:						
a. Mean <sup>5</sup> .....	32.1	28.3	32.2	18.9	27.2	(1)
b. Median <sup>5</sup> .....	22.2	10.6	23.4	11.0	18.9	(9)
11. Aggregate reduction as a percentage of outlays for all reporting firms in size class calculated on the basis of:						
a. Mean.....	.00	2.80	1.09	1.27	1.20	(1)
b. Median.....	.05	1.08	.70	.70	.77	(9)
12. Percentage of affected firms mentioning as cause of reduced outlays:						
a. Rise in interest cost.....	53.9	59.2	79.2	84.7	73.3	72.6
b. Decline in the stock market.....	3.3	18.3	18.1	10.4	17.4	10.7
c. Unattractiveness of borrowing conditions other than interest rates.....	20.0	28.8	37.8	48.9	30.0	35.6
d. Unattractiveness of underwriting terms (other than offering price or yield) in raising funds from the stock or bond market.....	0	5.8	8.0	9.2	7.1	7.0
e. Unwillingness of financial institutions to supply funds in desired amounts.....	26.7	30.8	26.8	17.3	24.8	24.6
f. Unwillingness of underwriters/brokers to handle issues in desired amount in raising funds from the stock or bond market.....	3.3	4.8	4.4	9.0	3.7	3.8
g. Difficulties (other than interest cost) in issuing commercial paper.....	3.3	2.9	1.1	7.1	3.7	4.4
h. Other financial market developments.....	20.7	15.4	10.7	7.1	14.3	14.1

1. In addition to the firms shown by asset size, includes financial institutions as well as a small number of nonfinancial firms for which asset-size information was not available.

2. Question numbers refer to questionnaire.

3. Some firms indicated more than one quarter.

4. Firms replying "yes" to question 5a but not answering question 7.

5. Firms replying "yes" to question 5a but not answering question 12.

6. Computed from the frequency distributions in lines 5a-5e, using the midpoint of closed-end intervals and a value of 75 percent for the open-end interval.

7. Computed from the frequency distributions in lines 6a-6e, using the calculated median for each distribution.

8. Computed by multiplying line 10a and line 10b, respectively, by 1970 plant and equipment expenditures of firms reporting reductions and dividing by expenditures of all sample firms in the size class.

9. Not available.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

lion—is probably closer to the actual figure than either the mean or the median.

Using the less inclusive \$79.7 billion total plant and equipment outlay for 1970 obtained from the OBE-SEC survey universe, the estimated national impact ranges from \$650 million by the median calculation to \$1,030 million by the mean calculation.

The overall reduction in planned 1971 plant and equipment programs resulting from 1969-70 financial market

developments was estimated by a procedure similar to that described above, except for the netting of indicated increases against decreases.<sup>8</sup> As shown in table 5, of the 474 firms indicating a change in their 1971 plant and equipment programs (relative to what they would otherwise have been) as a consequence of 1969-70 financial market

8. The survey did not provide a quantitative basis for calculating the possible increases in 1970 outlays resulting from 1969-70 financial conditions. Any such increases, which would result largely from anticipatory effects, would tend to overstate the 1970 estimated impact. See later discussion on margins of error.

developments, 268 firms said that 1971 programs would be lower while 169 firms indicated higher. The national impact based solely upon the sample firms indicating lower programs for 1971 resulted in an overall reduction ranging from \$1,195 million based on the median to \$1,830 million based on the arithmetic mean, or an average reduction of \$1,515 million. These figures, however, represent a "gross" reduction in that they do not reflect the higher 1971 programs indicated by 169 firms.

Table 5.—Changes in 1971 Plant and Equipment Expenditure Programs Resulting From 1969-70 Financial Market Developments, by Asset Size

	Nonfinancial firms only					All firms <sup>1</sup>
	Under \$1,000,000	\$1,000,000 to \$9,999,999	\$10,000,000 to \$49,999,999	\$50,000,000 and over	All sizes	
	Number of firms					
1. All firms answering question on impact of 1969-70 financial market developments on 1971 investment programs (question 13) <sup>2</sup>	445	1,069	799	338	3,118	3,839
2. Number indicating no changes in 1971 investment programs (question 14) <sup>3</sup>	445	927	673	827	3,673	3,068
3. Number indicating changes in 1971 investment programs (question 14) <sup>3</sup>	49	162	126	106	443	474
4. Of those in line 3 above, number indicating higher 1971 plant and equipment programs (question 15a) <sup>4</sup>	12	62	54	29	157	169
5. Of those in line 3 above, number indicating lower 1971 plant and equipment programs (question 15a) <sup>4</sup>	29	83	64	73	249	268
6. Of those in line 5 above, number indicating reduction amounting to (question 16) <sup>5</sup> :						
a. Less than 5 percent of programmed plant and equipment expenditures	4	3	4	4	15	15
b. 5 to 9.9 percent	8	17	13	26	64	64
c. 10 to 24.9 percent	7	35	24	25	91	91
d. 25 to 49.9 percent	4	12	13	12	41	42
e. 50 percent or more	7	10	10	7	40	45
f. Not specified <sup>6</sup>	1	1	0	0	2	2
7. Of those in line 5 above, number mentioning as cause of reduction (question 17) <sup>4</sup> :						
a. Rise in interest costs to your firm	17	42	42	64	165	185
b. Decline in the stock market because it affected your cost of equity financing	1	10	11	15	37	30
c. Unattractiveness of borrowing conditions other than interest rates	8	27	10	23	74	70
d. Unattractiveness of underwriting terms (other than offering price or yield) in raising funds from the stock or bond market	0	9	3	3	15	15
e. Unwillingness of financial institutions to supply funds to your firm in desired amounts	9	16	13	9	47	50
f. Unwillingness of underwriters/brokers to handle your issues in desired amount in raising funds from the stock or bond market	2	1	1	2	6	7
g. Difficulties (other than interest cost) in issuing commercial paper	1	3	3	6	11	12
h. Other financial market developments	0	20	23	16	70	83
Percent						
8. Percentage of responding firms indicating reduction in programs	5.0	7.8	8.0	10.6	8.0	7.6
9. Percentage reduction for affected firms calculated on the basis of:						
a. Mean <sup>7</sup>	20.4	20.2	27.6	22.1	25.8	(9)
b. Median <sup>7</sup>	12.0	10.4	10.4	14.5	18.0	(9)
10. Aggregate reduction as a percentage of outlays for all reporting firms in size class calculated on the basis of:						
a. Mean	2.22	2.23	.72	2.03	1.91	(9)
b. Median	1.35	1.55	.00	1.25	1.25	(1)
11. Percentage of affected firms mentioning as cause of reduced outlays:						
a. Rise in interest costs	55.6	50.0	65.0	74.0	62.2	63.6
b. Decline in the stock market	3.4	12.0	17.2	21.9	15.3	14.0
c. Unattractiveness of borrowing conditions other than interest rates	27.6	32.5	23.0	31.5	20.7	20.3
d. Unattractiveness of underwriting terms (other than offering price or yield) in raising funds from the stock or bond market	0	10.8	4.7	4.1	8.0	5.6
e. Unwillingness of financial institutions to supply funds in desired amounts	31.0	10.3	20.2	12.3	18.0	18.7
f. Unwillingness of underwriters/brokers to handle issues in desired amount in raising funds from the stock or bond market	6.9	1.2	1.6	2.7	2.4	2.0
g. Difficulties (other than interest cost) in issuing commercial paper	3.4	3.0	3.1	6.8	4.1	4.5
h. Other financial market developments	31.0	34.0	34.4	21.9	30.5	21.0

1. In addition to the firms shown by asset size, includes financial institutions as well as a small number of nonfinancial firms for which asset-size information was not available.

2. Question numbers refer to questionnaire.

3. The total number of firms shown in lines 4 and 5 is less than the number of firms shown in line 3 because lines 4 and 5 involve only plant and equipment answers whereas line 3 covers replies relating to both plant and equipment and inventory expenditures.

4. Firms replying "lower" to question 15a but not answering question 16.

5. Computed from the frequency distributions in lines 6a-6e, using the midpoint of closed-end intervals and a value of 75 percent for the open-end interval.

6. Computed from the frequency distributions in lines 6a-6e, using the calculated median

for each distribution.

7. Computed by multiplying line 9a and line 9b, respectively, by 1970 plant and equipment expenditures of firms reporting reductions and dividing by expenditures of all sample firms in the size class. There is an implicit assumption that, for firms reporting reductions in 1971 programs, these programs on the average were similar in magnitude to the 1970 expenditures of the same firms (see text).

8. Not available.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

The average sample universe estimate of the amount of increase is \$125 million.<sup>9</sup> Thus the "net" overall reduction in 1971 capital spending was estimated at \$1,390 million (\$1,515 million less \$125 million).

In response to question 10 (impact of hypothetically easier monetary conditions), 430 respondents replied "yes" with respect to changes in 1970 plant and equipment outlays. Quantification of these results (by applying the sample ratios for each asset-size group to the universe estimate of \$96.0 billion for 1970 nonfarm nonresidential fixed investment) resulted in an overall 1970 differential for plant and equipment spending of \$1,060 million using medians and \$1,790 million using arithmetic means, or an average of \$1,425 million.

This figure of \$1,425 million for the overall national impact of financial factors on 1970 business outlays for new plant and equipment is larger than the \$1,010 million calculated on the basis of replies to question 5a. The interpretation of these results is that fixed investment in 1970 would have been \$1.0 billion higher if 1970 financial market developments had been as expected by business early in 1970 and \$1.4 billion higher if significantly easier credit conditions than expected had prevailed (i.e., if credit conditions in 1970 had been about the same as the average during the 1961-65 period). However, the greater difficulty of answering a hypothetical question such as 10a should be kept in mind.

### Effects on 1970 Inventory Investment

The impact of 1969-70 financial market conditions on 1970 inventory

9. While the survey information did not permit direct quantification of the indicated increases in 1971 capital spending programs by the 169 firms shown in line 4 of table 5 in the same manner as that used to quantify reductions, it was possible to make a rough calculation of the dollar amount involved. About one-half of the 169 firms indicated in question 13 that they intended to make up in 1971 "some," "most," or "all" of their 1970 capital outlay cutbacks. The dollar amount involved in such makeup by these firms was calculated by tying these answers to the answers to question 7 indicating the amount of 1970 reduction. On the arbitrary assumption that the remaining firms in this 169-firm group had raised their 1971 spending plans by about the same proportion, the dollar amount of 1971 increase derived in this manner was raised to the OBE-SEC universe. The resulting figure was then raised to a national level on the basis of the ratio of the \$96.0 billion total for nonresidential fixed investment for 1970 to the OBE-SEC plant and equipment aggregate, resulting in a calculated overall increase of \$125 million.

investment appears to have been somewhat milder than the impact on fixed investment. Table 6 presents data by asset-size class on the frequency, timing, and magnitude of reported reductions in 1970 inventory investment.<sup>10</sup>

Eight percent of the respondents (260 firms out of 3,254) reported reductions in 1970 inventory investment. The percentage of companies reporting reductions in inventory investment was higher for trade firms than for manufacturers or other major industry groups. The largest firms reported reductions less frequently than medium-sized companies; this was in contrast to the findings on fixed investment, where the frequency of reductions varied directly with the size of firm. The inclusion of public utility and transportation companies partly accounts for the lower percentage of affected firms in the large asset-size group; such firms constitute a sizable portion of the large companies but generally hold very little inventory.

Among the firms which reported inventory reduction, the average size of the reduction declined as size of firm increased, varying from 11 percent for the smallest asset-size group to 7 percent for the largest size class (table 6, line 7). This pattern was generally similar to that for fixed investment.

When examined by asset size, it was found that the reduction of 1970 inventory investment in each size class of nonfinancial business, expressed as a fraction of yearend stocks of all sample firms in the class, was significantly lower for the two larger asset-size classes than for the smaller classes (table 6, line 8).

Firms were also asked to indicate whether and to what extent their inventories would have been larger at

10. There was an error in the wording of question 8 when the initial survey mailing was made, but followup mailings to nonrespondents contained an erratum notice. The error was in the use of the word "lower" when "higher" was intended. Post-survey spot checks of respondents to this question revealed that respondents had been able to detect the error and had handled the question in the correct manner, mainly because of the relationship of this question to question 5b. Incorrect handling of question 8 would, moreover, have become evident in the editing of the returned questionnaires, as there would have been inconsistencies in the replies to questions 5b and 8. For these reasons, it was assumed that respondents handled question 8 in the correct manner and the responses were included in the tabulations on that basis. Tabulations and calculations reflecting question 8 responses are so identified in the tables.

yearend 1970 if the relatively easy monetary conditions prevailing in the period 1961-65 had existed in 1969-70 (question 10b and 12). Seven percent of the firms responding (230 out of 3,232) indicated that their inventories at the end of 1970 would have been larger under those conditions (table 7).

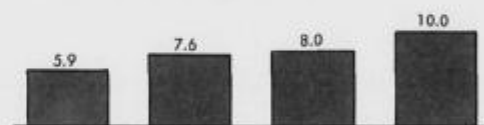
### Estimated national impact

Quantification of the overall national impact of 1969-70 financial market developments on 1970 inventory investment was derived by the application of the aggregate sample inventory reductions (table 6, line 8) to the distribution by size class of the estimated \$194.8 billion of inventories held nationwide by nonfarm nonfinancial business at yearend 1970. This procedure resulted in a calculated national reduction of

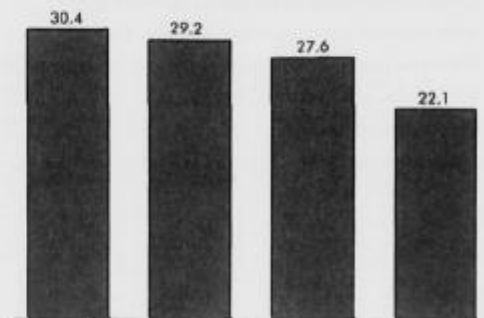
CHART 12

### Reductions in 1971 Plant and Equipment Expenditure Programs Resulting From 1969-70 Financial Market Developments

● Percent of firms reporting reduction



● Average percent reduction by affected firms



● Aggregate reduction as a percent of programs of all firms in size class



NOTE.—Data are from table 5.

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inventory expenditures in 1970 ranging from \$730 million using the median method to \$995 million using arithmetic means, or an average of \$863 million for the two methods. The survey data do not permit quantification of the impact of 1969-70 financial developments on 1971 inventory expenditures.

In response to question 10b, 230 firms indicated that they would have spent more for inventories than they actually did if much easier credit conditions had prevailed. Quantification of this result (by applying the sample ratios for each asset-size group to the estimated distribution by size class of the \$194.8 billion of nonfarm non-financial inventory held at yearend 1970) yielded changes in inventories of \$650 million using medians and \$890 million using means, or an average of \$770 million.

This finding that the impact on inventory spending measured from answers to question 10b is smaller than the impact measured from answers to question 5b is contrary to expectations and to the finding for fixed investment.

The result is primarily due to the fact that a number of firms answered questions 5b and 10b differently (e.g., affirmatively for 5b and negatively for 10b, and vice versa).

### Margins of Error

All of the estimates discussed above are subject to considerable margins of error. Even if the data reported by the sample were 100 percent accurate, the estimation procedures used to obtain the overall national impact might bias the results in either direction, due mainly to the lack of adequate size-distribution data for nonfarm nonresidential fixed investment.

The absence of quantitative data on the extent to which 1969-70 financial market developments increased 1970 expenditures above planned levels, largely through anticipatory effects, results in some overstatement of the effect of monetary stringency but this is presumed to be small. As an offset, the survey did not cover new businesses or businesses that did not get started

during 1970 because of financial conditions.

Reporting bias constitutes another possible source of error. While respondents may possibly have been inclined to exaggerate the effect of monetary tightness on their outlays (in the belief that such a demonstration might forestall further deflationary Government policies), there is no reason to believe that any such bias is significant. If such bias exists at all, it would tend to overstate the estimated reductions in business investment stemming from monetary tightness.

Nonrespondent bias may be another source of error. Other things being equal, it might be argued that firms significantly affected by monetary stringency would be the most likely to complete the questionnaire (at least when the size of firm is held constant). On the other hand, some firms may have been deterred from giving an affirmative answer to the financial market questions by the greater number and more detailed questions asked.

Table 6.—Reductions in 1970 Inventory Investment Resulting From 1969-70 Financial Market Developments, by Asset Size

	Nonfinancial firms only					All firms <sup>1</sup>
	Under \$1,000,000	\$1,000,000 to \$9,999,999	\$10,000,000 to \$49,999,999	\$50,000,000 and over	All sizes	
	Number of firms					
1. All firms answering question on impact of 1969-70 financial market developments on inventory expenditures (question 5b) <sup>2</sup>	473	1,065	838	762	3,105	3,264
2. Number indicating no reductions (question 5b) <sup>3</sup>	440	989	741	700	2,860	2,894
3. Number indicating reductions (question 5b) <sup>3</sup>	33	96	74	52	245	260
4. Number indicating significant reductions occurring in (question 5b) <sup>3,4</sup> :						
a. First quarter	0	10	7	11	40	47
b. Second quarter	12	44	27	21	104	106
c. Third quarter	25	81	68	43	207	210
d. Fourth quarter	23	80	59	40	206	211
5. Number indicating reduction amounting to (question 5b) <sup>3,5</sup> :						
a. Less than 2 percent of actual 1970 yearend inventories	2	18	18	13	51	62
b. 2 to 4.9 percent	6	18	17	11	45	47
c. 5 to 9.9 percent	8	28	20	18	69	70
d. 10 percent or more	10	30	14	9	63	64
e. Not specified <sup>6</sup>	8	7	8	6	25	27
	Percent					
6. Percentage of responding firms indicating reduction in investment	7.6	9.0	8.8	6.8	7.9	8.0
7. Percentage reduction for affected firms calculated on the basis of:						
a. Mean <sup>7</sup>	11.2	9.8	7.4	7.2	9.7	(7)
b. Median <sup>8</sup>	8.4	7.4	4.9	6.7	6.3	(9)
8. Aggregate reduction as a percentage of inventory holdings for all reporting firms in size class calculated on the basis of:						
a. Mean	.62	1.00	.21	.31	.31	(7)
b. Median	.47	.70	.14	.21	.21	(9)

1. In addition to the firms shown by asset size, includes financial institutions as well as a small number of nonfinancial firms for which asset-size information was not available.

2. Question numbers refer to questionnaire.

3. Some firms indicated more than one quarter.

4. See footnote 3 in text.

5. Firms replying "yes" to question 5b but not answering question 5c.

6. Computed from the frequency distributions in lines 4a-4d, using the midpoint of closed-end intervals and a value of 20 percent for the open-end interval.

7. Computed from the frequency distributions in lines 4a-4d, using the calculated median for each distribution.

8. Computed by multiplying line 7a and line 7b, respectively, by 1970 yearend inventories of firms reporting reductions and dividing by end-of-year inventories of all sample firms in the size class.

9. Not available.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

Some of these errors may be offsetting. In any case, even very large errors—say, 50 percent in either direction—would not appreciably alter the main finding that the reduction in fixed investment as a result of 1969-70 financial developments was quite small. On

the order of 2 percent or less of total fixed investment in 1970 or 1971.<sup>11</sup>

11. See William H. White, "Effects of Tight Money on 1969 Business Investment," *Journal of Money, Credit, and Banking*, November 1970, pp. 448-460, for a critical review of the statistical approach and findings of the 1967 survey.

### Other effects of monetary stringency

The relatively small impact of restrictive monetary policies on business investment contrasts sharply with the apparent effects of such policies on

(Continued on page 40)

Table 7.—Impact of Hypothetically Easier Credit Conditions Upon 1970 Expenditures for New Plant and Equipment and for Inventories, by Asset Size

	Nonfinancial firms only					All firms <sup>1</sup>
	Under \$1,000,000	\$1,000,000 to \$9,999,999	\$10,000,000 to \$49,999,999	\$50,000,000 and over	All sizes	
Number of firms						
Plant and equipment expenditures:						
1. All firms answering question 10a: "If the cost and availability of credit in your firm in 1969-70 had been about the same as in the 5-year period 1961-65, would your 1970 expenditures for new plant and equipment have been greater than they actually were?"	611	1,129	837	787	3,238	3,666
2. Number indicating greater expenditures ("yes" to question 10a):	47	229	217	166	661	430
3. Number indicating unchanged expenditures ("no" to question 10a):	464	899	620	621	2,577	3,236
4. Of those firms included in line 3 above, number indicating increases in 1970 plant and equipment expenditures would have been (question 11):						
a. Less than 5 percent of actual 1970 plant and equipment expenditures:	6	11	5	13	35	36
b. 5 to 9.9 percent:	10	20	17	48	95	104
c. 10 to 24.9 percent:	18	61	46	33	158	186
d. 25 to 49.9 percent:	8	17	27	12	64	83
e. 50 percent or more:	6	19	21	0	64	89
f. Not specified:	3	1	1	1	6	6
5. Of those firms included in line 3 above, number answering "yes" to question 10a:	16	79	69	72	237	232
Percent						
6. Percentage of responding firms indicating greater expenditures:	9.2	11.5	14.8	14.1	12.4	11.7
7. Percentage increase for affected firms calculated on the basis of:						
a. Mean:	23.7	25.8	30.5	19.0	25.1	(9)
b. Median:	16.6	18.1	21.7	10.2	17.4	(9)
8. Aggregate increase as a percentage of new plant and equipment outlays for all reporting firms in size class calculated on the basis of:						
a. Mean:	1.78	2.72	1.77	1.71	1.72	(9)
b. Median:	1.25	1.90	1.28	.92	.95	(9)
Number of firms						
Inventory expenditures:						
9. All firms answering question 10b: "If the cost and availability of credit in your firm in 1969-70 had been about the same as in the 5-year period 1961-65, would your 1970 expenditures for inventories have been greater than they actually were?"	486	1,068	808	746	3,075	3,333
10. Number indicating greater expenditures ("yes" to question 10b):	41	82	80	41	244	239
11. Number indicating unchanged expenditures ("no" to question 10b):	445	986	728	705	2,831	3,094
12. Of those firms included in line 10 above, number indicating 1970 rounded inventory book values would have been higher by (question 12):						
a. Less than 2 percent:	1	10	3	8	22	22
b. From 2 to 4.9 percent:	13	12	17	11	53	55
c. From 5 to 9.9 percent:	12	26	21	13	72	75
d. 10 percent or more:	13	30	18	9	71	73
e. Not specified:	2	3	0	0	5	6
Percent						
13. Percentage of responding firms indicating greater expenditures:	8.5	7.8	7.4	5.5	7.3	7.1
14. Percentage increase for affected firms calculated on the basis of:						
a. Mean:	10.2	10.6	16.8	7.3	9.9	(9)
b. Median:	7.3	8.2	7.4	5.6	7.3	(9)
15. Aggregate increase as a percentage of inventory holdings for all reporting firms in size class calculated on the basis of:						
a. Mean:	.62	.97	.22	.26	.25	(9)
b. Median:	.37	.74	.10	.13	.19	(9)

1. In addition to the firms shown by asset size, includes financial institutions as well as a small number of nonfinancial firms for which asset-size information was not available.

2. Question numbers refer to questionnaire.

3. Firms replying "yes" to question 10a but not answering question 11.

4. Computed from the frequency distributions in line 4a-b for new plant and equipment expenditures, and lines 12a-12d for inventory investment, using the midpoint of closed-end intervals and a value of 75 percent and 20 percent, respectively, for the open-end interval.

5. Computed from the frequency distributions in lines 4a-b and lines 12a-12d, using the

calculated median for each distribution.

6. Computed by multiplying line 7a and line 7b by plant and equipment expenditures, and line 14a and line 14b by inventory investment, of firms reporting increases and dividing by respective expenditures of all sample firms in the size class.

7. Firms replying "yes" to question 10b but not answering question 12.

8. Not available.

Sources: U.S. Department of Commerce, Office of Business Economics, and the Securities and Exchange Commission.

compared with the severe downturn in domestic steel shipments. There was a sharp drop in imports of nonfood consumer goods (other than autos), which were probably most responsive to the restraining factors mentioned earlier.

For the full 9-month period in 1971, exports advanced by \$1.7 billion, or 5 percent, over the same period in 1970, while imports soared by \$5.0 billion, or nearly 17 percent. Almost nine-tenths of the \$3.3 billion deterioration in the trade balance (see table B2) was in trade with Western Europe (\$1.7 billion) and Japan (\$1.2 billion). Despite the various special factors affecting trade this year, the laggard pace of U.S. exports in 1971 can be associated in large part with the slowdown in economic growth and increase in idle capacity in other major industrialized nations. At the same time, a pickup in domestic economic activity has had a stimulating effect on imports. However, imports rose more rapidly than past patterns would have indicated, resulting in a record high ratio of imports to GNP.

#### U.S. corporate capital

Recorded net outflows of U.S. corporate capital—including direct investment and changes in other corporate claims and liabilities—remained high in the third quarter. The total was almost \$1.4 billion, an adverse shift of \$205 million (see table C). In view of nervous foreign exchange markets, the corporate capital accounts seem to have been comparatively stable. However, there may have been substantial outflows in the first 2 months of the quarter which were reversed in September. Transfers outside normal reporting channels may also have occurred, contributing to the large outflows in errors and omissions.

Corporate long-term capital outflows were \$1.2 billion, a negative shift of \$110 million from the second quarter.

Direct investment outflows continued at the high \$1.4 billion level of the first two quarters of 1971. These unusually large direct investment outflows were partly related to continued expansion of fixed assets abroad. Moreover, foreign affiliates of U.S. corporations may have hedged against dollar depreciation by drawing funds from U.S. parent companies to reduce foreign currency commitments. Flows associated with changes in other long-term claims showed no significant shift in the third quarter.

Long-term borrowing (including new issues of securities sold abroad by U.S. corporations) was \$135 million lower. New issues totaled \$180 million, the lowest quarterly total since the first quarter of 1970. The small figure probably reflected the nervousness of the exchange markets. The third quarter negative shift in total long-term borrowing was more than offset by a favorable swing of \$155 million in short-term borrowing. There was a \$75 million deterioration in short-term non-liquid claims.

The largest third quarter swing in corporate capital was in short-term liquid claims, which shifted unfavorably by \$170 million, from a \$55 million decrease in the second quarter to a \$115 million increase in the third.

Direct investment capital outflows in the first 9 months of this year were almost \$4.2 billion, \$650 million higher than in the same period of 1970. Total long- and short-term corporate borrowing of \$850 million in 1971 was sharply lower than the \$2 billion figure in 1970, an unfavorable payments shift of almost \$1.2 billion. New issues in the first three quarters of 1971 exceeded those for the same period in 1970 but other long-term borrowing declined by more than \$500 million. U.S. corporations also made net short-term repayments of \$185 million, in contrast to net short-term borrowings of \$580 mil-

lion during the same period in 1970. The overall reduction in borrowing probably reflected the improved liquidity positions of U.S. parent firms.

(Continued from page 31)

capital outlays by State and local governments and on investment in housing.

A study by the Board of Governors of the Federal Reserve System concluded that the impact of restrictive credit conditions led to a gross reduction in planned capital outlays by State and local governments of \$2.85 billion for the fiscal year 1970.<sup>12</sup> A combination of interest rate declines and revisions in interest rate ceilings later in fiscal 1970 evidently permitted \$1.25 billion of these capital projects to be reinstated but an estimated \$1.60 billion remained suspended at the end of the fiscal year. This amount is equal to 5.6 percent of total capital expenditures by State and local governments in the 1969 fiscal year.

Direct estimates of the impact of 1969-70 monetary stringency on residential construction are not available but the data on activity are quite suggestive of its depressing effect. Outlays for nonfarm residential construction declined sharply during the latter half of 1969 and activity continued to weaken into 1970. Outlays declined from a peak seasonally adjusted annual rate of \$33.0 billion in April and May 1969 to a rate of \$29.3 billion in December and only \$27.0 billion in July 1970. Residential construction outlays turned upward in August 1970, following the reversal of restrictive monetary policy, and have advanced sharply since then.

12. John E. Peterson, "Response of State and Local Governments to Varying Credit Conditions," *Federal Reserve Bulletin*, March 1971, pp. 209-222.